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THE  
ANTIQUITY  
OF THE  
WORLD.



ANTIQUITY



WORLD.

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OF THE  
WORLD.

BY  
G. H. TOULMIN, M. D.

THE SECOND EDITION.

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LONDON:  
PRINTED FOR T. CADELL, IN THE STRAND.

MDCCCLXXXIII.

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## ADVERTISEMENT.

*THIS work was first written by the Author at a very early period of life, which circumstance may account for some of the imperfections of the last edition. This new edition he has endeavoured to make more worthy the attention of the public.*

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tion of the system.

INTRO.

A 3

## INTRODUCTION.

**I**N writing upon a subject, extensive and important in its nature, so nearly interesting to every denomination of men and upon which nothing satisfactory has hitherto been offered to the world, the Author is sensible that he has engaged himself in an arduous undertaking. At a period when a liberality of sentiment predominates, when men, emerging from obscurity, eagerly relinquish the errors and prejudices of their ancestors, something on the present subject seemed ab-

A 4                      solutely



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*olutely necessary, to give still greater consistency to the reasonings and speculations of mankind.*

*To impress us with an adequate idea of the nature and extent of animal and vegetable life, the continual fluctuation of things, the antiquity and duration of the extended scenes of existence,—is the object of the succeeding disquisition. Its intention will however be still more essentially answered, if, while obviating the erroneous conclusions which too universally prevail, in respect to the antiquity of surrounding objects, it gives a new and clearer insight into the nature of existence.*

*We have sought for truth,—not in the opinions of mankind, but in every  
step*

step have been guided by plain sense and simple matter of fact. Nor can there exist a doubt, that, by thus giving a scope to cool and liberal investigation, the interests of the human species have been essentially consulted. To what purpose can it be, that the errors of dark ages should cramp the reasonings of men, who live in a time when every thing is so much reversed? Truth never injures mankind. Ignorance, obscurity, and superstition alone engender the mischiefs which disturb society. In this enquiry we have then attempted to trace, not from reasonings purely metaphysical, but from the most undoubted facts, the remote existence of animal and vegetable life, and of the world itself.

Here

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Here it must however be confessed, that, independant of the considerations already enumerated, the Author has in view other objects, nearly connected with the design of this performance. The baneful and gloomy influence of Gothic barbarism and superstition upon the understandings and the morals of mankind, have been perhaps too sparingly touched upon. The disagreeable effects of mistaken zeal and opinions, indeed, can scarcely be placed in too striking a point of view. In short, the manners of society have been, and are still, most materially injured by circumstances, which the outcry of folly would deem essential to the existence of society itself.

Happy then shall he esteem himself, if the few succeeding Observations have  
but



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*but a tendency to shake the fixed prejudices of his fellow-creatures ; to assuage the remaining turbulence of ignorance and error ; and thus to smooth the way to that refinement, which essentially contributes to the peace, safety, and welfare of the human species.*

INTRODUCTION.

that a tendency to look the fixed pre-  
judices of his fellow-creatures; to judge  
the remaining turbulence of ignorance  
and error; and then to look the way  
to that reform, which is the only con-  
tributor to the peace, justice, and well-being  
of the human species.

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*produced*



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THE

exists there any people without some  
ANTHROPOLOGY  
of the world, and Nature's first ex-  
istence.

OF THE

WORLD.

SECTION

*The First.*

THE traditions concerning an  
original formation of things  
have ever been connected with the  
various opinions of mankind. Nor  
exists

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exists there any people without some confused ideas as to the circumstances of the world, and Nature's first existence.

Thrown into the mysterious scenes of life, passing themselves, through the state of infancy, to the different stages of their being; it became natural for mankind to dive into the boundless ocean of antiquity, in search of the infancy of worlds. Unequal however to the task of reasoning pertinently, on a matter of such intricate investigation, they heedlessly adopt the reigning principles. Unfortunately, the oral traditions

ditions of the unpolished and the written tracts of the civilized parts of the human species, in these particulars, have an equal pretension to refinement. Descending to the minutest circumstances, the sages of various countries fix with certainty the epoch of the extraordinary birth; and in doing this, they diametrically contradict one another.

With gravity can they tell us the place where Nature took first her origin; intimately are they acquainted with the actors in the scene,—they know the duration, the little incidents of their lives,—they draw



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from circumstances of their conduct the most important conclusions,—and they trace their own lineal descent from their first imaginary parents. In short, these events are fixed, either in the traditions or the written histories of their respective countries, with a chronological precision.

Nor is it to be wondered at, if the strangest inconsistencies occur in all these narrations. Fabricated in the rude infancy of society, they contradict, in an uncommon degree, the plainest and most simple truths of nature. And the sensible inquirer,  
from

from a thousand sources, is sufficiently convinced of the little dependence, which ought to be placed upon rude, contradictory assertions.

The vague stories, then, of nations concerning the origin of the world, should be ranked but among the grossest errors of mankind. They only serve to shew us the operations of the human mind in a barbarous age, the superstitious folly that predominated. How disagreeable then would be the task of a tedious comment, upon the dreams and superstitions of illiterate barbarians.

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Content, in the course of the succeeding observations, to place the matter in its just point of view, I decline the unnecessary task of canvassing the particulars of ridiculous opinions, however universally received.

Here let me observe, that this is done out of a principle widely different from that which actuates the mass of writers. Staggered with the idea of contradicting notions so generally adopted, and which long have been disguised under the mask of an elevated authority; possessed of some gothic and prevailing ideas,

that



that the essential security for virtue and good morals is universal ignorance and superstition! perhaps influenced not a little by the dread of the censures of the prejudiced part of mankind, whose very censure and disapprobation, if they reflect any thing, reflect distinguished lustre; in short, to avoid imaginary stains upon their character, men, otherwise sensible, and even liberal in their sentiments, upon these occasions, give to the errors of delusion too ready an assent. They suffer themselves to be carried away, at the expence of reason and sound judgment.

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ment, by the torrent of hereditary folly, and the vulgar prejudices.

But the case is very different with the real philosopher. Regardless of the voice of falsehood and of folly, he listens with rapture to that of nature and of truth, under whatever circumstances they may be concealed. He is well convinced, that men are invariably virtuous, in proportion as they have clear perceptions of things; That the true principles of morals neither can be practised, enforced, nor understood, in an age of barbarism and superstition; That the human species, in such ineligible

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gible circumstances, mistake the real objects of happiness or virtue ; and, so far from protecting or enlivening the moment of existence, precipitate themselves into gloomy melancholy or headlong destruction. In short, he is most fully satisfied, that nothing can be either beautiful or estimable, which has not for its basis the solid foundations of nature and of truth.



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### SECTION

#### *The Second.*

**T**HUS have I industriously avoided  
commenting minutely upon the  
opinions of this or that country, in  
respect to an original formation of  
things; and in doing this, have de-  
viated from a prevailing custom.  
To investigate a subject in the sim-  
ple tract of reason and of nature,  
has scarcely been esteemed suffi-  
cient. Solicitous formally to confute  
the

## OF THE WORLD. II

the doctrines of others, which might seem to clash with their own, writers have too often sacrificed the perspicuity of their subject to tedious and uninteresting controversy.

Mankind indeed, when once possessed of notions, though of the most absurd nature, are apt to think themselves injured and neglected, by passing in silence their respective opinions. But I think it will be readily granted me, that some opinions are best treated with contempt.

When

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When men obviously forsake the simplest truths of nature, when they become bigotedly attached to a favourite system, or to some reigning superstition, what arguments can counteract their obstinacy! what energy of truth or reason enforce conviction! To point out their absurdities, but rivets them in their errors; seriously to confute them, is a fruitless labour.

The antiquity of the world, of animated nature, and the extended scenes of existence, I shall, then, without farther ceremony, endeavour to investigate,

From



## OF THE WORLD. 13

From the obscure lights of human tradition,—and

From an attentive examination of the various productions, which nature has presented to our inspection,

In this division of our subject into distinct heads, it seems necessary to direct our first attention to the fleeting traditions, the testimony of the human species. Let us then enquire into the manner of receiving such testimony, or such traditions, from distant ages.

The

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The arts of all others unquestionably the most important; those of registering ideas through the medium of literary characters, and thus conveying interesting facts to posterity, would seem, from limited observations, to have had their origin in the East. Yet the reasonings throughout this inquiry will make us hesitate in determining, whether this has really been the case. At all events, it must evidently appear to a person, who has been accustomed to examine into human nature, with an attentive and penetrating eye, that these valuable acquisitions could not at any time, in any country, nor among

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among any collection of individuals, have possibly been attained till after a long series of civilized exertions. And when such civilization once is attained, to what unspeakable fluctuations is it subject! Many ages are men knit together in society, before considerable improvements of any sort take place; but ere the refinement of registering ideas, perhaps an essential cause of man's superiority in the scale of nature, can ever be supposed to have had existence, the arts of social life must have been eminently advanced.



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In proof of this, the Mexicans, who had gone some considerable lengths in many of the arts of polished society, had yet made no farther progress in the art of writing, than that of delineating, with various coloured feathers, the objects which they wished to represent.

What then can we possibly expect to know, with any certainty, of history or antiquity, ere this epoch! Knowledge derived from written observations, by the intelligent man, is received with the utmost diffidence and caution. But the accounts of things which flow from a distant tradition

tradition are well known to be the most glaringly absurd, and to bring scarce a glimmering of truth to remote descendants.

Here then, evidently, is seen the impossibility of coming at any essential knowledge of the matter in question, from the source of human tradition!

But, independent of that absolute necessity of an extended civilization, to give even the minutest origin to the art of writing or registering of ideas, a little knowledge of the world is sufficient to convince us,

C

that

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that human society has been, and is still, in a continued revolution. Empires rise and fall, barbarism and civilization, knowledge and superstition, riches and poverty, alternately succeed each other. Is it possible then for us, from a limited experience, to fix with assurance, what events have happened, may or may not be expected? Can we, amid daily revolutions, look backwards or forwards for but a few millions of years, and fix with the shadow of probability the state of arts and sciences, or of human society, at such periods? And what, let me ask, are millions of years, compared with the



the endless periods of eternal duration? The literary advances of the present day may fade, from incidents totally unforeseen. Our boasted civilization, at some future period, may no longer exist. It is well known that the learning of the Greeks and Romans was in danger of entirely perishing, by the inundations of barbarous nations. Fortunately, however, some few monuments of their literary accomplishments have been preserved to us. Yet had these convulsions continued a little longer, had they but been a little more violent, should we have known what had passed among those

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celebrated nations, even a few centuries before us, and in the vicinity of our native country? The Romans and the Greeks were but of yesterday, and we, by the merest accident in the world, know a few of their transactions!

That the mechanical arts depend essentially upon the state of literary refinement, will be readily granted. Could a people then be deprived of the latter without a considerable decay of the former? Yet when slight circumstances of improvement accidentally spring up among a barbarous people, it is natural for fable  
and

and tradition to ascribe to them a much later origin than the true one.

Such then are the slippery foundations for the inconsistent arguments of those, who, turning their attention to the momentary transactions of Greece and Rome, lose sight of the transactions of every surrounding nation, and of the uniform and undeviating operations of nature !

Were I, however, in the least disposed to pay any sort of deference to the dreams of surrounding nations, or to lay a stress upon reasonings drawn from the testimony of the



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ignorant part of mankind; did I even so much as expect to meet with any thing in the smallest degree satisfactory, as to the antiquity of the world, the human species, or an extended succession of events, from such a channel, which nation, let me ask, of those at present existing, out of the vast assemblage, has the greatest claim to so distinguished an attention?

How insuperable the difficulty even to answer this simple question, or to fix upon the society of men, whose written observations have survived the wreck of time, or whose records

records are of the highest antiquity ! Nor indeed is it at all essential to our purpose that we should do so. This dispute, could it be absolutely determined, has not the smallest reference to the object of our inquiry, the real antiquity of the human species. It never can be other than matter of curiosity ; and that curiosity could only point out to us a collection of individuals, who had an early pretension to extended refinement. Antecedent to them, other nations might, however, still have existed, whose civilization, and whose literature, had been absorbed, or

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swallowed up, in the convulsions and revolutions of the world.

The pyramids of Egypt, and the written mountains of Arabia, are monuments of once an enlightened people; yet neither do we fully understand the inscriptions upon the latter, nor the hieroglyphics upon the former. In all probability, these may have a still juster claim to antiquity, than any written books or records that are extant. But how strongly must the futility of having recourse, on the subject of antiquity, to the records of mankind appear, since (as it will be the business



finels of this inquiry to demonstrate) the very materials of the pyramids, the written rocks themselves, the mountains upon which such engravings are visible, and even the countries themselves in which they are situated, have each of them been as regularly and progressively formed as were the engravers!—

Then what are we to think of these Europeans with whom modern annals have made us acquainted? How limited have been their knowledge and understandings? How inexpressibly absurd the barbarous impressions that they have received!

In

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In short trivial circumstances alone have turned their eyes and undistinguishing credulity to channels, from whence nothing satisfactory can possibly be derived.

The Chinese, who have long been established in a beautiful and regular society, have records of that ancient date, which ought to have staggered such prevailing and such ill-grounded pretensions. Many of these, indeed, would appear to extend (as it has been repeatedly suggested) to an antiquity altogether unfathomable.

Yet

✓ Yet though the Chinese may seem to have the most undisputed claim to this remote refinement, recent observations, and those of a nature the most truly authentic, have strongly attracted distinguished and merited attention to other Eastern nations. Writers of credit and distinction, whose particular situations in the East Indies gave them access to such intelligence, had long opened to us the unquestionable antiquity of the people of that country. Circumstances have, however, recently transpired, which hold out lights still more interesting.

The



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The translation of the Gentoo \* laws evidently carries so curious a subject to what some would be disposed to call a singular extent. Yet such limited antiquity can never surprise any but those who, from the general nature of things, have not previously been prepared to look for some such incident.

The judicious translator of these interesting tracts, struck with the scenes in which he had been long and intimately conversant, in his preliminary treatise has made some pertinent observations.

• By Mr. Halhed.

The

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The Hindoos, as well as the Chinese, says he, have ever laid claim to an antiquity infinitely more remote than is authorised by the belief of the rest of mankind. It is certain, however, that these two nations have been acquainted with letters from a very early period, and that their annals have never been disturbed or destroyed by any known revolution. And though we may come to the perusal of their records armed with every argument, and fortified even to prejudice against the admission of their pretensions, and at the same time place the most implicit reliance

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ance upon the chronology generally received; yet their plausible accounts of those remote ages, and their undeviating confidence in their own assertions, never can fail to make some impresson, and that in proportion as we gain a clearer insight.

Like the rest of mankind, the Gentoos, too, have rude sketches of a creation. Their fabulous and extravagant narrative obtains among them the most implicit credit, notwithstanding it is evidently replete with glaring absurdities.

Though



Though already I have expressed a fixed determination of avoiding a formal comment upon such vague and ridiculous opinions, yet a simple narrative of the notions of these people may serve as a parallel to the notions of others. And indeed, of all the absurd and imaginary systems with which we are acquainted, in respect to this subject, none carries with it more the face of probability.

According to their notions, after the earth and the heavens were formed, a creature was produced called Burmha. It was this most extra-

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extraordinary personage that manufactured mankind; together with the innumerable beasts, birds, vegetables, &c.

The inhabitants of India, however, aspire to a much more elevated station in the scale of existence than other nations, whom they style the reprobate part of the human species. The most distinguished of their tribes came from the mouth and from the arms of Burmha; the rest were the offsprings of his thighs and of his feet!

Thus

Thus then are they positive and as clear as we, in the existence of things which in fact never had existence!

These people reckon the duration of the world by four distinct periods. They admit in the calculation of its age seven millions two hundred and five thousand years!

It is needless to say, that conjecture must unavoidably have taken place in this enumeration; yet we cannot here sufficiently admire the sagacity of men, who, in a point the most truly interesting, approach something nearer to nature and subli-

D

mity,



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mity, than the vain and superstitious inhabitants of a more Western continent.

Rajah Prickutt, continues our author, who, though ranked as a modern in the records of India, is yet known to have lived upwards of four thousand years ago, was no less anxious than modern philosophers are, to pierce through the obscurity of time, and to trace the progress of the world from its infancy. At his instigation, a work was composed by a learned Bramin, containing the history of India through the preceding periods, with the

the succession of the several Rajahs,  
and the duration of their reigns:  
This curious history still subsists,  
divided into twelve books, and  
three thousand and twenty chap-  
ters.

How singular then must all this  
appear to men whose ideas are  
cramped by the fetters of superstition!  
Who have been taught from their  
infancy to believe, that nature is but  
in the very dawn of her existence; and  
that a few thousand years are the  
utmost extent of her duration: in  
short, who, incapable of taking any  
extended views whatever, dream

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but of those unmeaning incidents that have momentarily preceded their own. No sooner indeed, are they informed, that an history still exists composed four thousand years ago; that traces mankind farther back through millions of years, than instantly they revolt at this idea; and, placing a confidence in the dreams of their ignorant predecessors, are insensible to the voice of reason, and to the simplest operations of nature. A very small portion of reason and reflection, one might have thought, should have convinced mankind, that millions of years are but as moments in duration ;



tion; that the events that are daily obvious, are but the ordinary incidents that ever have happened, and ever will happen. Yet still is it echoed by the barbarous nations that triumphed over the more refined civilization of Greece and Rome, that nature lasts but for a time, and that she has had a beginning as it were of yesterday. Indeed so clear are they about these fundamental points, that they are perfectly well acquainted even with the very years and days of her origin, and prophetically do they dream about the dissolution of the existence of nature!

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How gladly then would an ignorant and superstitious part of the human species, impose upon the understandings of the rest!—How strenuous their exertions to degrade, to debase mankind! Fain would they persuade us, that Nature is but of some thousand years duration; that the only human actors in existence have been a few surrounding nations, a part of them triflingly civilized, and others totally absorbed in the grossest ignorance and barbarism; some indeed possessed of undigested records, others altogether devoid of them; and all of whose records, actions, and ideas, have

have but recently dawned upon their own.

Can then such reasoners possibly be said to have any pretension to right reason? How blind to the nature of their own existence! How totally deprived of any sort of notion, either as to their relative situation in the scale of beings, or the eternal revolutions of events!



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### SECTION

#### *The Third.*

**H**OWEVER high the European, the Egyptian, the Indian, the Chinese, the Asiatic, or in short any existing records may seem to extend, when compared with notions which generally prevail, in spite of every thing that is reasonable or consistent; yet I flatter myself the unprejudiced enquirer will have been sufficiently convinced, both from  
what

what has already been said, and from his own observations, That human testimony or tradition, even granting them their utmost latitude, are but of the most limited extent; that it is only in the advanced state of refinement, that the art of writing could, at any time, or in any country, possibly have taken its origin; and that this valuable acquisition, important as it is, is subject to the most unspeakable fluctuations.

In short, it does but in a temporary and imperfect manner preserve the fleeting actions of mankind, and  
make

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make them, as it were, for a moment survive themselves. The innumerable ages of barbarism, and ignorance; the multiplied successions of the unrecorded part of the human species, emerge not from their oblivion. No more traces of their existence remain to us, than if they had never existed. Themselves, the place, the time, the circumstances of their passage, are for ever lost to the reasonings, and to the contemplation of mankind.

Important and decisive as such a train of reasoning certainly is, it has not, as far as I can recollect, been



been sufficiently attended to. From thence however may be inferred, and without the smallest hazard of plausible contradiction, circumstances of the most truly philosophical nature; In short, independent of every other consideration, what distinguished light does it not throw upon the real antiquity of the world, and of the human race! For, though beyond momentary periods every thing lies hid in undistinguished darkness, yet is there room for reason's operation. She announces, without the shadow of hesitation, That the human species, and the other branches of animated nature,

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nature, fluctuating in their increase and decrease, their barbarism and refinement, actually may have flourished, amid the unceasing revolutions of nature, through endless periods of existence.

SECTION.

*The Fourth.*

**H**AVING sufficiently shewn the  
 extreme folly of expecting any  
 thing in the least to our purpose,  
 from all that has been written by  
 those, who have inconsistently been  
 called the ancient part of mankind,  
 either as to the circumstances of  
 their own, or the world's first ex-  
 istence; and having demonstrated  
 the very limited extent of human  
 tradition,



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tradition, allowing it even its utmost latitude; I come to the second, and indeed the important part of the enquiry: the lights that may be received from an attentive examination of surrounding objects.

But, in every part of that branch of natural knowledge, which our enquiry obliges us to have recourse to, we cannot without astonishment reflect, that the most important truths seem never to have been sufficiently known or illustrated. Moderns alone, and those our immediate predecessors and contemporaries, have indeed possessed themselves of  
facts

facts of an interesting nature; though perhaps nothing can be possibly conceived more vague and undecisive, than the little use that they have made of them.

The vestiges, for instance, of the animals and vegetables, both of the land and sea, have been met with in the contexture of different species of stone, and other matter, constituting the various countries of the world. Yet what just conclusions have we been able to draw from such singular appearances? What have the more enlightened done, from whom more might have been

ex-

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expected, but gazed with wonder and admiration, and confessed themselves bewildered in a labyrinth of doubt and uncertainty. In short, the clear and simple inferences that might have been deduced, have been lost amid the dreams of system, and of superstition.

In the largest bodies of limestone, marble, chalk and calcareous earth, constituting the loftiest mountains and even countries of the world, the fishes, animals and various productions of the sea, invariably present themselves; and not, as one might be led to suspect, in trivial



trivial portions ; but, in many instances, forming even the very mass itself of such substances.

In stone too of a totally different nature from marble or limestone, vegetable impressions, and the remains of land animals are every where obvious. And, what is equally singular, coal never occurs, but in the beds of matter, that are thus impressed with such land animals and vegetables.

That decayed land vegetables and animals are a fruitful source of various species of earths and stones is

E too

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too obvious to be disputed; but on coal particularly let it at present be observed, that from its always presenting in beds of stone and clay impressed with vegetable forms, and having been met with in various stages of its transmutation, from the vegetable substance to that of coal, it has with reason been concluded to derive its origin from remains of vegetables. Indeed the same might be said of the variety of other substances the same beds invariably produce.

How universal is the existence of such curious occurrences! How decisive

cise and important the philosophy that they suggest! The appearance of animal impressions, in the contexture of different species of stone, demonstratively indicates the progressive formation, not only of stone in general, but of the various countries of the world. It is unnecessary to comment any farther, in this place, upon the preceding facts, or to dwell upon the various changes that such substances when formed are subject to; it is the object of the succeeding observations, to give a sketch, however inadequate, of the important operations of nature, and of the eternal fluctuation of things.



It is necessary, however, to premise, that, to speculative minds natural facts, in variety of instances, have ever suggested their antiquity. Yet, whether from the limited extent of natural observations, or from that diffidence which ingenious men sometimes find in entertaining ideas subversive of the general opinions, most certain it is, that the very facts that suggested such antiquity seem not to have been sufficiently understood, either as to the philosophy thus unavoidably confirmed, or that equally interesting succession of time, which cool disquisition might have brought them to support.

The

The slow progress of the formation, for instance, of earths, generated chiefly by the decay of land vegetables and animals, and, nevertheless, the abundant appearance of such production on the surface of repeated lavas, at a considerable depth, has suggested to some a limited antiquity. But what is the proportion of a few thousand years, or even a more multiplied succession of ages, compared with the endless periods of eternal existence,—the unbounded revolution of events? Or what extended ideas of antiquity can the operations of nature, upon the surface of a particular country

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afford, when the very substances composing the country itself are formed by slow operations, and, in the infinite succession of time, exposed to dissolution and innumerable transmutations,

Such facts, however curious in themselves, will ever be found to prove but a limited and trifling antiquity. Yet when taken in a philosophical point of view, when brought in support of reasonings of an extended and interesting nature, they most undoubtedly become of the very first importance, and ever throw the strongest light, both  
upon



upon natural knowledge and the whole system of things.—Independent then of the uninteresting consideration of limited periods of antiquity, suggested by the gradual formation of earths generated principally from decayed land animals and vegetables, we have in such instances a curious specimen of the gradual advance of such productions. It matters not whether nature is directly uniform in the time, or in the mode of producing these soils. We have at present only calmly to contemplate the quantity of similar earth that is met with in the world. It will hereafter be demonstrated,

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that nature, found progressive in the production of an earth in one district, has been equally progressive in the production of every species of earth and substance existing. Impressed with such ideas, how strikingly must we see the true importance of such natural facts, their singular reference both to philosophy and antiquity!

Here an extensive scene opens to our contemplation. On taking a survey of the surface of the world we find it divided into land and water. The seas and rivers uncommonly fruitful in their animated productions; the continents and islands covered

vered with beautiful verdure, and affording scenes of no less extended animation. And the innumerable animals and vegetables, whether of the land or sea, happy in their existence for a time, and hastening to their certain dissolution; yet not to an annihilation of existence. From that dissolution other substances innumerable take their slow but certain origin; and such new substances are as important in themselves, and as necessary in existence, as the animals and vegetables from whence they originated.

Independent of the changes of animals and vegetables into immense masses



masses of stone, that, through a vast succession of ages, have already taken place, it must afford matter of the most curious speculation, to the contemplative mind, to observe those very changes even now continually carrying on by the most regular advances. Let us, at present, pass by the numerous transmutations the rapid productions of the ocean are gradually undergoing. The continents and islands of the globe, of which we are more immediately the inhabitants, furnish us with examples that are sufficiently striking. The earths nearest the surface we tread upon, incumbent upon stone, clay, sand, chalk, and variety of

of matter, whether formed wholly by the decay of vegetables and animals, or in part by the decomposition of beds of matter by the influence of the atmosphere, is immaterial, being less exposed to revolutions and to those changes time will produce, abound with innumerable vestiges of trees, shrubs, plants, &c. some nearly in a state of dissolution, others in a measure intire; and indeed such is the diversity of these scenes, that in some districts, at a considerable depth below the surface of the earth, vast quantities of trees are met with, lying as close to each other as they do in a wood, the trunks,

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trunks, branches, and leaves in perfect preservation.

But the vegetable remains, thus entombed in the bowels of the earth and unaffected by the mouldering hand of time, are not the only curiosities that present themselves. The bones and relics of animals, not as yet in a state of dissolution, occur at a considerable depth below the surface, some in part decayed, others with their original substance intire.

The cities too of mankind, shaken by the convulsions of nature, absorbed in the bowels of the earth,  
and



## OF THE WORLD. 61

and long ago deprived of their fabricators and ancient inhabitants, have in some few instances presented at a considerable depth, covered with different soils, scenes of luxuriant vegetation, and hastening as it were to hide themselves from the eyes of superficial observers.

In short, districts of the world overflowed by the liquid matter of volcanos, altered and deprived of their vegetation by the earthquakes and convulsions of nature, or deserted by the waters of the ocean, soon put on a new appearance, become the seats of fruitful  
and

## 62 THE ANTIQUITY

and rapid vegetation, fitted for animal existence, for the production and accumulation of earths and various substances, and prepared in the slow, but unerring progress of time, for a repeated exhibition of scenes, which, to limited observation, appear astonishing and uncommon.

Thus in the mere contemplation of the less perfect expressions of antiquity is human conception lost in the innumerable succession of ages, that crowd upon the imagination! But, when our researches are extended a little farther, and well-known animals and vegetables are ob-

observed, presented too at the greatest distance from the surface, changed totally from their natural substances, assuming the native properties of stones or rocks; such stones distilling and forming the minerals, and all together constituting the loftiest mountains and most extended countries; then do we at once revolt from the received opinions, relinquish the common ideas of mankind; and, exercising the powers of our reason, seek for a solution of our difficulties in an endless or eternal existence and fluctuation of beings and events.



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### SECTION

#### *The Fifth.*

**SUCH** is the extraordinary and  
inexhaustible subject that I have  
here undertaken to illustrate. But  
'ere we proceed in our researches, the  
subterraneous fires and eruptions of  
volcanos, that have recently engaged  
the serious attention of mankind,  
and that form so interesting a branch  
of natural knowledge, solicit a pre-  
vious consideration. The effects they  
pro-

produce upon the surface of the world are indeed of an uncommon and curious nature; and, in the succeeding parts of this enquiry, will be brought in support of more important observations. Let us then for the present relinquish circumstances still more strongly expressive of an infinite succession of events, or a boundless antiquity, and attempt a general sketch of those forcible operations of nature.

It has at length become a fact well known to naturalists, that calcined rocks, pumice stone, and lava, the undoubted vestiges of volcanos, have

F

every

## 56 THE ANTIQUITY

every where presented. In short, innumerable are the specimens of the remote existence of extinguished eruptions, as well in this island as in France, Germany, North America, the West Indies, the late discovered islands in the South Seas, and in every district of the world.

If it is not criminal, in these days when men's ideas as to antiquity seem generally contracted, to speak in the language of reason and philosophy, volcanos in any particular district are beings of the moment. Fleeting children of nature, they have their rise, their progress, their

ex-



## OF THE WORLD. 67

extinction. Their influence is important, their remains are almost every where visible, their existence perhaps universal. In the inexplicable lapse and in the progress of time, to the ignorant and to the wondering world, their issuing flames ever have been, and ever will continue to be, matter of surprize!

It may not here be improper, in order to give a clear and circumstantial explication of the influence of volcanos, to mention some few facts selected from the multitude of those recorded by a variety of authors.

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In the dreadful eruption of *Ætna*, in the year sixteen hundred and sixty-nine, by frequent explosions of stones and ashes a mountain was raised not less than half a mile perpendicular in height, and at least three miles in circumference at its basis. The lava, which ran from the volcano, and on which there are as yet no signs of vegetation, reached Catania, destroyed part of its walls, buried an amphitheatre, an aqueduct, and many other monuments of its antient grandeur, which till then had resisted the hand of time; and ran a considerable length into the sea, so as to have once formed a beautiful and safe harbour,

bour, but it was soon after filled up by a fresh torrent of the same inflamed matter; a circumstance the Catanians lament to this day, as they are without a port.

Such is however but an imperfect description of the extraordinary quantity of matter that is frequently discharged by the existing volcanos; and, as mountains are sometimes elevated on the land by their reiterated discharges, numerous are the instances on record of subterraneous fires bursting suddenly from the bottom of the sea, and forming islands of no inconsiderable dimension.



## 70 THE ANTIQUITY

Here it may not be improper to observe that, on these occasions, it frequently happens, that large fractured pieces of rock are thrown to a distance truly astonishing, a circumstance necessary to be attended to, as prodigious masses of different species of stone are often met with detached a considerable distance from the original beds to which they evidently appear to have formerly belonged; appearances which seem no otherwise explicable than by supposing such rocks to have been broken off, and discharged by volcanos long ago extinguished.

The

OF THE WORLD. 71

The cities too of the world, scarcely more permanent than their fabricators and inhabitants, though affected by the depredations of time, destroyed in the contention of nations, overwhelmed by the inundations of the ocean, and swallowed up in the earthquakes and convulsions of nature, in the eternal existence and fluctuation of things, seem not less exposed to destruction by the fiery torrents of volcanos.

In the year seventy-nine, for instance, the eruptions of Vesuvius overwhelmed the two celebrated cities of Herculaneum and Pompeii,

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by a shower of stones, cinders, ashes, sand, &c. and totally covered them many feet deep as the people were sitting at the theatre.

Such are some of the more singular and extended influences of volcanos ! Yet however interesting such speculations are, or whatever lights they may throw upon the subject of antiquity, the nature and fluctuation of things, they are naturally absorbed by the stronger expressions every where obvious.



SECTION

*The Sixth.*

**A** Few reflections it may not here  
be amiss to offer. They seem  
to be naturally suggested from the  
whole of the preceding observations;  
yet their truth will be still more ob-  
viously confirmed in the sequel of  
this enquiry. In short, the celebra-  
ted Greeks and Romans, the Egyp-  
tians, the Chinese, the Indians, the  
other Asiatics, together with the ani-  
mals

mals and vegetables contemporary with themselves, but existed upon the surface of countries, whose very deepest recesses every where exhibit the most obvious scenes of past and universal animation, and of slow, progressive, and uniform formation; and which, in common with the rest of the globe, have equally participated in the most striking and interesting revolutions; revolutions indeed so emphatically expressed, that one might have apprehended they should have suggested to mankind, that as their own substance was subject to gradual formation and decay, so were the different productions of nature;

OF THE WORLD. 75

ture; and that the substances constituting mountains and countries of the world, in the eternal existence of things, were formed, destroyed and regenerated. But what must be our astonishment, when we reflect that revolutions so sensibly important, so universally diffused, and so uncontroversably authentic, seem in a great some measure to have evaded the scrutiny and curiosity of mankind.



## 76 THE ANTIQUITY

### SECTION

#### *The Seventh.*

**T**HE existence of the vast remains of the animals and vegetables of the land and sea, in the deep recesses of the world, has already been pointed out; and the most distant regions hitherto explored bring uncontradicted testimony of the truth of what we have advanced. It is unnecessary to support such observations by having recourse to particular districts and portions

tions of countries; the taste for natural history that so generally predominates, and that does honour to the present race of mankind, has superseded that necessity. In short, what are in themselves a few natural facts, purely local, or minute circumstances attending particular districts, when we are possessed of a philosophy that strikingly convinces us of the universality of their existence; and that brings every species of substance, every surrounding object, and every district of the world, in equal confirmation of its authenticity?

But

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But it is not the speculative and enlightened part of mankind, that will dispute the abundant existence of the remains of animals and vegetables of the land and sea in immense masses of stone and other matter, constituting mountains and extended countries of the world. It is the contracted and illiberal, or those unaccustomed to such researches, that receive with disapprobation and distrust, circumstances tending to subvert their ill-founded opinions, and not formed to flatter the grossness of their prejudices. To that part of the human species no truths can be made sufficiently obvious.



ous. To them no observations that are important can be too repeatedly enforced.

Let us then have recourse to the mountainous parts of Derbyshire, for a specimen of facts, by way of illustrating what has already been advanced, and as an additional corroboration of the truth of our assertions.

The opportunities of tracing in this district, with accuracy, the internal structure of the earth, are such as are not easily to be met with. From the monuments here and indeed every where existing, what  
striking

## 60 THE ANTIQUITY

Ranking proofs are exhibited of that succession of time, which, while it overturns the trifling and ill-directed pursuits of most of our modern antiquarians, gives a forcible impression of every surrounding object.

With as much brevity and clearness as possible, I shall faithfully relate the state of some of the natural facts alluded to; and which consist of such vast beds of various matter, regularly and successively formed, as cannot fail to leave on the mind the desired impression.

The first bed that presents, in the district of Darley Moor, is that of a  
coarse,

## OF THE WORLD. 81

coarse, sandy kind of stone, which extends to the depth of one hundred and twenty yards; and which from the attrition of its particles rounded as stones upon the sea beach, would seem to have been formed by the action either of rivers or of the ocean. This is succeeded by a black, clayish composition, indurated, and in a measure, petrified by time, equally deep as the former. Then comes a body of lime-stone, the depth of fifty yards; and, what is singular, the remains of a petrified crocodile, an amphibious animal, have been here discovered\*. Next

\* By a Mr. Watson, of Bakewell.

G

succeeds



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succeeds a matter of black stone or marble, resembling lava, the depth of sixteen yards. Another bed of lime-stone, the depth of fifty yards, is again incumbent upon black stone or lava, the depth of forty-six yards. This is again succeeded by lime-stone, the depth of sixty yards. Once more succeeds the same black stone, the depth of twenty-two yards; and this is followed by lime-stone, which has not as yet been penetrated. And that the lime-stone, in all these beds, has been gradually formed by the hand of Nature, through a vast succession of ages. The numerous impressions of sea-fishes, the crocodile,

OF THE WORLD. 83

rodile, and a variety of other circumstances, sufficiently convince us.

Such is, however, but an imperfect description of the natural facts in question: we shall therefore proceed to other appearances that demand an equal attention. — The separate beds already described prevail throughout a vast extent of country; and appear, in many districts, to have been fractured in the most curious and singular manner; nay, in some places, huge masses of them seem to have been entirely swallowed up. It even appears next to a demonstration, that other immense

## 84 THE ANTIQUITY

beds had formerly been incumbent on the sandy stone, the first of those beds so particularly mentioned in the facts of Darley Moor \*; and it is highly probable, that they have disappeared in some of those dreadful earthquakes and convulsions, with which this and every other country in the world seem to have been agitated. Indeed, when the miners have occasion to dig in the adjacent vallies, they often find them filled up with fragments of those superior beds, which appear to have been wanting. But, what is more decisively convincing, wherever this

\* See Page 81.

sandy



sandy stone, already taken notice of, is observed to dip \*, it is actually covered with some hundred yards of clay, coal, and stone; which last is of a brownish colour, and, when applied to repair the roads, soon returns to the primitive clay of which it evidently appears to have been constituted. And all these separate beds, except the coal, (which, by the bye, invariably is generated in similar situations) contain figured stones, representing a great variety of vegetables, or, more properly speaking, the impressions of them;

\* See Whitehurst's Sections of the Strata of Derbyshire.

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as reeds of various kinds, jointed at different distances, ferns, corns, grass, and many other species of the vegetable kingdom\*.

Then what vast scenes of vegetation! what happy and long continued settlements must such districts have afforded, for the existence of men and other animals! The composition of these indeed, subject to a hasty putrefaction, dissolution, and decay, but serves to increase the general mass of matter. And thus

\* Prodigious variety of such curious productions are in different museums throughout the whole of Europe.

such

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such vestiges, though often met with,  
are yet less frequently so than the  
other branches of animated nature.

SECTION



## 88 THE ANTIQUITY

### SECTION

#### *The Eighth.*

THE knowledge of such facts, which are by no means peculiar to any particular district or portion of the world, but which are universally existing, may perhaps induce us to change as well our general notions of nature as of antiquity. No longer are we to regard the loftiest mountains, the most extended countries, the continents and islands of the globe, nor the substances even constituting the world itself,

itself, as of original and permanent existence. Formed, as well as ourselves, by gradual processes, they are likewise unstable, and subject to perpetual changes.

Nor do such vast revolutions simply testify a boundless lapse of time. Other important and instructing lessons they hold up to the contemplation of mankind. Substances that we meet with the farthest from the surface of the earth, carry with them the visible impressions of animated existence.

In short, that the world should have thus been agitated in unobserved

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served confusion, is the most unnatural of suppositions. On every such occasion, the human species evidently must have been present. Nor is it by any means reasonable to suppose, that mankind have existed in any considerable degree more numerous at any one period than another. Ever have they fluctuated in their population, or increase and decrease, either as art or nature have afforded them more or less of the means of subsistence.

That vegetables and fishes were in being, in the very remotest antiquity, their obvious remains in every species of



## OF THE WORLD. 91

of stone, at the very bottoms of mountains, and in each country of the globe, strikingly demonstrate. And of the equally remote existence of animals in general, circumstances may be brought which are unquestionably conclusive.

The existence of vegetables and fishes, already explained, would have been the strongest presumptive proofs of this; but we also find, that in each quarter of the world the remains of the human species, and those of a vast variety of animals, are every where met with in a fossil state.

The

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The situations in which these sometimes occur, bespeak the most decisive and distinguished antiquity. The bones of the human species, for instance, have been found petrified in great abundance, at a considerable depth, in the rock of Gibraltar\*. Though changed into stone, the minutest parts of the human skeleton are at once to be distinguished. The bones of the head, the teeth, those of the arms and of every distinct member are perfectly visible. Appearances similar to those at Gibraltar, as well as the bones of a variety

\* See specimens of such in the British Museum.

of

of animals, have also been discovered in the rocks of Dalmatia, upon the eastern coast of the Adriatic. Not many years ago, two large teeth and part of the trunk of an elephant were met with, transmuted into stone, in a lead-mine in Flintshire, forty-two yards below the surface of the earth. Other such remains of elephants have been discovered in different districts of England, and throughout various parts of Europe \*. In short, instances of the bones of animals, petrified or changed into stone, have every where presented themselves.

\* See specimens in the British Museum.

Much



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Much might be said on the petrified state in which these bones, as well as other substances, are met with. The slow advance of petrification in many instances; and the surprising progress that various substances have nevertheless made towards it, afford perhaps the most ample field for speculation.

The vast rocks, the mountains of stone, the immense districts of such substance; in short, every species and every particle of stone or petrified matter existing, demonstrably appear to have been gradually and progressively generated. That stone has not  
ori-

originally been in that petrified or hardened state, in which it is at present met with, various circumstances sufficiently convince us.

In the very middle, for instance, of the largest bodies of marble and limestone, and those too at the greatest distance from the surface of the earth, one may plainly observe impressions of the animals of the sea. In immense masses of stone, of a very different quality either from marble or limestone, vegetable productions are no less conspicuous.

The facts already suggested, sufficiently support our assertions; and,  
indeed,

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indeed, were it necessary, innumerable are the proofs which might still be adduced.

Let us then once more repeat, that at the greatest depth we ever yet have been able to descend below the surface of the earth, one may plainly discern the remains of the vegetables and animals of the land and sea, enveloped in the substance of rocks.

What astonishing prospects! What a maze of antiquity does all this present! Conception itself is unequal to the contemplation. Yet what arguments, what proofs, what facts can

make



make an impression upon men that are prejudiced and superstitious! Taught to domineer it over nature, truth, and reason, they will not admit their light, but are callous to conviction upon every such occasion. Lasting enemies to good sense, strangers in speculation, and too often in practice, to what is real virtue and morality; at mortal variance with every thing that is mild and amiable in life; they eternally oppose both their own happiness, and that of mankind, and the real interests of society.

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### SECTION

#### *The Ninth.*

IT may not be here improper to observe, that, from the chemical resemblance of the matter constituting the lime-stone and marble, with that of the testaceous matter of shell-fish in general, and the plants or productions of the coral-kind; from the rapid generation of these last, from the immense beds and districts of shell-fish that every where pre-

present themselves; and from such substances uniformly occurring in the contexture of these kinds of stone; it has with some reason been conjectured, that marble, lime-stone, and the calcareous matter in general, derive their origin from animated productions; and become thus differently modified by combinations that we are but little acquainted with, hardened by time and diversified by circumstances of situation. Specimens, indeed, of lime-stone, are frequently met with, composed of nothing else but testaceous matter, plants of the coral kind, or shells compacted together. Concerning the other species



## 390 THE ANTIQUITY

of stone and earth, it might with equal justice be conjectured, that their existence is necessarily dependent upon the decay of animals and vegetables. Daily experience convinces us of earths generated in this manner. And the wrecks or the impressions of land vegetables and animals are visible, at the centers of the largest rocks.

It is, however, by no means necessary, in this part of our enquiry, absolutely to decide upon a matter of such curious speculation. It is sufficient for our present purpose to demonstrate, that every species of stone;

let

let its kind be what it may, indisputably takes its form in the gradual succession of time.

As to the change of a variety of substances into stone by means of petrifying waters, and their singular reference to antiquity, interesting lights might be thrown out, could we, in the different instances, but demonstrate the exact time of the process. That such changes often advance exceedingly slow, need not be insisted upon.

The late Emperor of Germany, in order to satisfy his curiosity in so im-

## 102 THE ANTIQUITY

portant a particular, having first obtained permission from the Grand Signior, caused some piles of wood to be drawn up, on which the bridge which Trajan had thrown over the Danube had been founded. They examined attentively these wooden piles, and observed that the petrification was advanced no more than three-fourths of an inch in fifteen hundred and some odd years. From this circumstance they concluded, that a piece of wood of equal thickness and forty feet in length would be petrified an inch in twenty ages; and would employ, to arrive at its total transmutation, ninety-six thousand



land years. As trees have been taken up petrified, whose trunks were more than forty feet high, and their thickness in proportion, people may judge, say they, of the time that they have been thrown down or buried.

This reasoning is, however, far from being conclusive. In certain circumstances and situations, petrification may be supposed to advance in a manner totally different, and with much greater rapidity than it does in the waters of the Danube; yet the fact is remarkable, and a thousand parallel instances may be produced. It is indeed a matter

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worthy of observation, that the quantity of earthy particles in the waters, that are possessed of a petrifying power in the highest degree, is but very inconsiderable; and that the process of petrification, in such cases, must unavoidably be conducted in a gradual, slow, and uniform manner.

from being conducted in certain circumstances and situations, petrification may be supposed to advance in a manner totally different, and with much greater rapidity than it does in the waters of the Land of Chalk. yet the fact is remarkable, and a thousand parallel instances may be produced. It is indeed a matter

SECTION

*The Tenth.*

**YET** whatever extended notions of antiquity the gradual or progressive formation of earth, stone and a variety of bodies must have unavoidably suggested, there is another process of nature not less interesting; and which indeed is equally pertinent to the subject upon which I am treating.

The



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The minerals then themselves appear to be by no means primary productions of nature. Long has it been erroneously conjectured by mankind, (ever subject to delusion!) that the earths, the stones, the minerals, were originally created such as they are found, and that they thus continued permanent and immutable. Surrounded by an immensity of matter, their own substance but a trifling modification of a small part of that immensity; coming to and forsaking their present state of being by a gradual progression; one might have thought, that the human species should have extended that analogy.

Why

Why have they thus assumed to themselves properties so totally distinct from every species of existence, and from that mass of matter, of which, though indeed a part, they are yet so insignificant a proportion?

Like every other being, and like every species of substance with which we are acquainted, the minerals themselves take their origin in the gradual succession of time, by processes of nature with which we are by no means familiar. Their ores indeed are sometimes met with, scattered by fragments in beds of earth, horizontal or inclined; yet these are far from  
being

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being the places of their origin. They have been conveyed into those situations by the earthquakes and convulsions, which, it will be hereafter demonstrated, have ever agitated the globe. The fissures and the caverns of rocks are the great workhouses, where nature carries on such curious operations. And even those very caverns and fissures, which thus produce the minerals, are themselves formed, and every where surrounded with immense masses of matter, replete with the impressions of every species of animated nature; and carrying themselves, in their very construction, undeniable proofs of the most



most progressive, slow, and uniform formation,

The mineral particles, distilled from such surrounding rocks, are continually crystallizing and increasing in quantity.

In short, let us finally repeat, that the fissures of rocks, the bottoms and sides of caverns, daily incrust with every species of mineral substance.

Concerning the properties of air and water, hitherto little has been said. Fluidity indeed, or, more properly speaking, fluid bodies, are to

be

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be considered as solids melted by heat. Those solids, it is evident, participate of the nature, and are as progressively formed, as any other body whatever. That fluidity is in most cases the effect of heat, needs not to be insisted upon. There is scarce any substance, which cannot, by heat, be brought into a fluid state. Quick-silver itself has been congealed, by exposure to a certain degree of cold. In short, daily experience convinces us of the fluctuation and continued generation of air; and, like other species of matter, the waters themselves undergo eternal changes and revolutions. Experiments have been  
made,

### OF THE WORLD. III.

made, that would seem to demonstrate, a very considerable production of earth may be obtained from water, by means of a peculiar exposure to heat. But what occasion is there to insist upon a circumstance of an ambiguous nature? A fluid that may be reduced to a solid, that circulates in unceasing fluctuation, and which enters into the composition of most bodies, cannot be conceived, without being continually destroyed and regenerated.



## SECTION

*The Eleventh.*

**F**ROM the observations that have already preceded, and from those which are still to follow, it will, I flatter myself, be sufficiently demonstrated, that earths, stones, and minerals are as much the regular product of time and of nature, as any animal or vegetable being that exists.

The

OF THE WORLD. 113

The globe itself then would appear to us to be principally constituted of earth, stone, and mineral substances. At all events, matter, or the constituent particles of the world, and of every species of existing substance, has been, and is still, in a rapid revolution.

Yet, as the greatest depth that we have ever descended is but very inconsiderable; and as mere supposition, however well supported by reason and analogy, still leaves the mind in a state of suspense; and, as natural facts alone, and such as are well founded and obvious to the sen-

## 114 THE ANTIQUITY

ses, can bring us to an absolute certainty and conviction; let us for a moment turn our attention to the elevations, to the mountains of the world.

Of these the Pyrenees, the Alps, and the Andes merit a distinguished consideration. The Andes particularly, extending nearly the whole length of South America, are elevated, in some places, upwards of three miles above the level of the sea.

The summits, the centers, the bottoms of such mountains, are merely constituted but of those very substances,



stances, that have so particularly engaged our attention,

Their earths, their stones, their minerals, are like the earths, the stones, the minerals of every other district. The earths and stones, more particularly, have, in their constitution, all the distinguishing appearances of animal or vegetable impressions, or of regular formation.

Thus then are mountains principally constituted of earths and stones, while it has been most decisively demonstrated, that earths and stones themselves have been gra-

dually

## 116 THE ANTIQUITY

dually and previously constituted. In a word, let us once more observe, that the substances too of which mountains, continents, the habitable world, and the whole of nature is composed; as they were progressively formed, so are they subject to perpetual change and variation in their composition. Fruitless is the search for a modification of existence permanent and immutable!

And yet, though matter ever thus is agitated, — and nature changes forms, — her forms do all exist. Though men are seen to die, or change existence, the human species flourish in eternal being!

SECTION

*The Twelfth.*

**N**OR ought that appearance of the world, which is erroneously called the disorder'd face of nature, to escape our attention. The stupendous rocks, the mountains as it were cloven asunder, the shores of the ocean impending, the adjoining waters unfathomable, are but so many striking monuments of those dreadful convulsions, which have ever agi-



## 118 THE ANTIQUITY

tated the globe. And whoever seriously considers the violent effects of earthquakes recorded in the various annals of mankind, or those which have more recently occurred, never can be surprized at the ruins and confusion every where visible.

In the earthquake which destroyed Lisbon, in seventeen hundred and fifty-five, the mountains of Arrabida, Estrella, Julio, Marvan, and Cintra, being some of the largest in Portugal, were impetuously shaken, as it were, to the very foundations; and some of them opened at their summits, split, and rent in a wonderful

derful manner, and huge masses of them were thrown down into the adjacent vallies.

A fine stone quay, where the merchants landed their goods, where at the time about three thousand people were assembled for safety, was turned bottom upwards; and it appears that the water, where the quay stood, is now an hundred fathom deep. A sea-port, called St. Ubal's, was entirely swallowed up, people and all. In Morocco, the earth opened, and swallowed up a village, with all its inhabitants, to the number of ten thousand persons, together with their

cattle of all sorts, as camels, horses, horned cattle, &c.; and soon after the earth closed again in the same manner as before. The famous city Tasso was wholly swallowed up, no remains being left. One of the Sarjon hills was rent in two; one side of which fell upon a large town, where there was the famous sanctuary of their prophet, known by the name of Mula Teris; and the other side of the same hill fell upon another large town; and both towns and inhabitants were all buried under the hill. The earthquake was even more terrible in Barbary than in Portugal; at Mequinez, that part of



the city where the Jews resided, was entirely swallowed up; and all the people of that sect, being about four thousand in number, perished, except seven or eight. And, however singular it may appear, it is an undoubted fact, that, at the very time of this earthquake at Lisbon, the people working in the mines of Derbyshire were greatly alarmed by agitations of that district, and with explosions, as it were, of cannon.

In the year sixteen hundred and ninety-two, a great part of Port Royal, in Jamaica, was sunk by an earthquake, and remains covered  
by

## 122 THE ANTIQUITY

by the water several fathoms deep; on the north side, above a thousand acres of land sunk. Some mountains along the river, betwixt Spanish Town and Sixteen Mile Walk, were joined together; and others so thrown on heaps, that people were obliged to go by Guanaboa to Sixteen Mile Walk. At Yellows a great mountain split, and fell into the level, and covered several settlements. Another plantation was removed half a mile from the place where it formerly stood. In Clarendon precinct, the earth gaped prodigiously; and all over the island there were many thousands of openings.

ings. But in the mountains are said to have been the most violent shakes; indeed they are strangely torn and rent, insomuch that they seem to be of different shapes now, from what they were; especially the Blue, and other mountains most elevated, which seem to have been the greatest sufferers. Nay, a large high mountain, near Port Morant, near a day's journey over, is said to be quite swallowed up; and in the place where it stood there is now a great lake. The Blue and its neighbouring mountains used to afford a fine green prospect; now one half of them, at least, seem to be wholly deprived of their natural verdure.



dure. There one may see where the tops of great mountains have fallen, sweeping down all the trees and every thing in their way, and making a path quite from top to bottom.

The Pico in the Moluccas, accounted of equal height with that of Teneriffe, was sunk by an earthquake, quite swallowed up deep into the earth, and has left a lake in its place.

In the year sixteen hundred and forty-six, many of those vast mountains the Andes disappeared, and were totally lost.

In

OF THE WORLD. 125

In short, the vestiges of such violent operations present themselves in every district of the world, and are the strongest testimony of an unbounded succession of events.

What idea can we have of that time, which has thus afforded an universal existence to incidents, that make their dreadful appearance so rarely in the limited span of human existence !

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Such then are nature's operations !  
and once more let us say, That,  
as the vegetables rise and fall, and  
men

## 126 THE ANTIQUITY

men exist and die, the earths are formed, and vary in their natures. They sometimes change to stone; the stone again is decomposed by air, or worn away by time and constant agitation. Or, all are swallowed in the bowels of the earth, and changed by fire, or by nature's hidden operations.



SECTION

*The Thirteenth.*

**T**HUS have I taken a general survey of an extensive part of nature! And her uniform progression, in the formation and decay of every species of existing substance, is far too obvious to be any longer insisted upon. But, in variety of instances, we have, however, observed, that the productions of the ocean have been met with in the most

most stupendous masses of rocks. From what has already been suggested, we must unavoidably be convinced, that the ocean has been stationary in districts where it now is not, for periods altogether inconceivable, and has there deposited, in great abundance, its vast productions. But, having gradually forsaken its former situation, scenes of vegetation have then taken place, of perhaps an equal duration. And from natural appearances frequently to be met with, there is reason to suspect, that its advances and retreats have been repeated in a multiplied succession.

Our

Our attention then necessarily seems attracted to circumstances of a truly interesting nature. And while, in the remainder of this disquisition, the superficial part of the globe is alone the scene of our speculation, never ought we to forget, That the vegetables, the animals, the stones, the earths, the minerals, and in short every existing substance, equally participate of gradual formation, and real dissolution or transmutation. Such reasonings alone will ever be found essential to sound philosophy, and the true knowledge of antiquity.

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I shall



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I shall now proceed to give my opinion concerning the singular influence of the ocean, less desirous to demonstrate a succession of time, than still farther to confirm what has already been said, and to give an idea of the uniform operations of nature, which seem hitherto to have been but little attended to.

Struck with the indelible marks of past inundations every where visible, a multitude of writers have attempted to account for such appearances. Labouring, however, to establish complex theories, or fettered by some reigning superstition,

so

so far from clearing up the matter, they seem only to have involved it in still greater obscurity.

In regard to these important operations of nature, simplicity should take place of elaborate system.

Collected in the vast extent of the ocean, the waters, by their continual agitation, have produced the greatest changes on the surface of the earth. The marine productions every where met with, and which can only be the work of the seas, sufficiently convince us, that they have occupied successively every part of the globe.

## 132 THE ANTIQUITY

Thus then may the boundless ocean be viewed in the light of a river, whose waters are constantly changing their direction. Except, indeed, with this difference, that the rivers, though they gradually change their ancient channels, yet such change is minute, and confined to a particular district and portion of time: Whereas, in the case of the ocean, the change is immense, and of the most important nature; in the great lapse of time, its water's successively, though irregularly, occupy and desert every part of the world. And such are the daily changes of earth into water, and water into land, we may be confidently



fidently assured, that alterations similar to such as have been, still are, and ever will be made.

What follows, then, from this undoubted state of facts? The charming seats of vegetation, the numerous islands of the world, the vast continents themselves, in the course of time, will exist no longer as such; but, immersed in the waters of the ocean, will undergo the most inexpressible alterations.

That restless element, on the other hand, gradually forsaking its ancient boundaries, will leave the districts it

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now covers prepared for scenes of luxuriant vegetation,—for the happy settlements of succeeding generations!

Nor are there wanting causes, unquestionably adequate, to bring about this astonishing change. In short, our ideas once sufficiently elevated and cleared, in respect to the important object of enquiry, other difficulties will be easily surmounted.

Variety of circumstances, then, are continually, but gradually, conspiring to effect the sea's flow, but no less certain, change of station.

Among

Among the most essential of these,  
may be enumerated,

The vast alterations perpetually  
made upon the surface of the world,  
by earthquakes and volcanos.

The agitation of the waters of the  
ocean from whatever cause.

The discharge of different sub-  
stances from the mouths of a multi-  
plicity of rapid rivers.

The constant generation of marine  
productions, both vegetable and ani-  
mal.



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Shores washed away by the seas continually beating against them.

In short, whatever thus obstructs, or gives a freer passage to the waters of the ocean, insensibly occasions the retreat or advance of that element.

Elevating the mind to remote antiquity, granting that there have been periods of time sufficiently extensive, it cannot be denied but that such causes are amply sufficient to produce the effects, however uncommon, that have hitherto, and shall hereafter command our attention.

They

## OF THE WORLD. 137

They account very satisfactorily for the appearance of shells, of sea-fishes, of coral, of lime-stone, and other marine productions, constituting the summits and bottoms of the highest mountains, and other vast portions of the terrestrial globe:

## SECTION

*The Fourteenth.*

**I**T is necessary here to observe, that some alteration, as to the situation of countries, or the position of the axis of the world, has of late been suspected actually to take place. A few modern philosophers have even been induced to think, that this circumstance alone could have altered the position of the sea, and have produced those extraordinary effects which are every where observable. Yet, should we even be induced to grant



OF THE WORLD. 139

grant the existence of such a change, it must be allowed to be of a slow and gradual progression; and, certainly, tho' silent, and by no means obvious to the contemplation of mankind, it may be conceived to produce great and important effects. Yet even then, it could only conspire with those numerous and interesting influences already enumerated.

It is however, perhaps, somewhat doubtful, whether this change, which they contend for, has or has not taken place. At all events, the alteration seems to be of a nature that as yet admits not of demonstration;

## 140 THE ANTIQUITY

tion: and, till such proof is actually brought, it will be ever received with distrust, by men who found their reasonings upon no other basis than that of undeniable facts.

The vast variety of productions, however, similar to those now met with only between the tropics, that have been discovered petrified in the northern latitudes, (occurring too in stone and other matter constituting the countries of such colder regions; and in situations where innumerable circumstances demonstrate, that the animals and vegetables, of which they are the remains, have been generated, lived,

lived, and died in the very districts where such petrifications are at present found), give a very considerable strength to this opinion. They would seem indeed to convince us, that a change in the position of the axis of the earth has taken place, and, the same causes continuing, will take place, from some unobserved operations of nature.

Were such a change once admitted, the consequences may absolutely have been, that the countries which are situated at present under the scorching rays of the sun, at periods remote may have obtained another situation,  
and



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and may be conceived to have constituted the polar regions of the world. And that the inhospitable regions, on the other hand, now covered with a deep and lasting snow, in their turn may have equally luxuriated in all the felicity of more happy and warmer climes.

Yet whether this cause, granting it to exist, should be received as equally essential among the many obvious ones already mentioned, is much to be disputed. Could we even be clear in our determination, whether it operates powerfully, though slowly, or not at all, in changing the situation

tion of the waters, it would perhaps be found by no means consequential.

For the facts which are the fullest proofs of the sea's perpetual advance upon the dry land, are of the most striking nature. They impress us with prospects truly astonishing; and convince us sufficiently, that the same powers at present exist, which, silent as the lapse of time, have already produced flow, but universal effects.

Enormous quantities of shells of every kind, corals, sea-fish, limestone,

## 144 THE ANTIQUITY

stone, marble, chalk, calcarousearth, beds and even deserts of sand, with other numerous remains of marine productions, are met with in every quarter of the globe, in some measure constituting the countries of the world itself.

The truth of these assertions cannot be disputed; this enquiry has already afforded repeated proofs. Yet, out of those innumerable facts that might still be adduced, it may not perhaps be amiss to select one, as a still farther corroboration.

In



In Touraine, a province of France upwards of a hundred and eight miles from the sea, throughout a district of eighty square miles, eight or nine feet below the surface, they come to a bed of shell-marle, constituted chiefly of oysters and other marine productions. These shells are found to extend, in many districts, to an unknown depth, but, upon the whole, at least to the depth of eighteen feet; and will be found to amount, upon the most limited computation, to a hundred and forty millions of cubic fathoms of shells, mostly decayed and broken into fragments.

• M. de Reaumur.

They

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That

## 246 THE ANTIQUITY

That such curious and familiar objects are, universally, the genuine offspring of the sea, will be readily acknowledged. The shells and fishes, in some districts, are still found to retain their marine matter, though much decayed. But of the prodigious quantity of shells transmuted into stone, some are found whole, others broken, many bored through by an animal well known to prey upon the living fish, and they have the same effects, used chemically, medically, and in agriculture, as those taken immediately from the ocean.

The shell-fish of the same kind are of all sizes, some young and others old.

They

They form distinct beds of oysters, cockles, &c. Their smallest articulations may be remarked, and even the pearls are observed that the living animal produced. The teeth too of many of the fishes are in such a state, as sufficiently to convince us that they have been made use of, and consequently that they belonged to animals that once were alive. The appearance of the limestone rocks upon the tops of mountains, and in the various districts of the world, is no less conclusive.

And that all this has not been occasioned, as has been vulgarly con-



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ceived, by any universal inundation of the ocean, is demonstrable, both from the fishes petrified in the beds of lime-stone, which seem to be in the places where they have been generated, lived, and died, forming distinct beds of oysters, cockles, &c. and oftentimes deposited with as much regularity as beds of living shell-fish are in any part of the sea; and from the various marine productions which, in a variety of instances, are separated by immense beds of vegetable or other matter.

Such are indisputed monuments of a singular succession of events!

such

such the proofs that the sea is by no means stationary! They indeed seem to prove to us, beyond all manner of controversy, that this element, at repeated and different periods, has exercised every where its dominion!

Nature testifies this by a variety of different instances. Circumstances render it evident, that many of the islands of the world have, one time or other, been the highest land of adjoining continents; and it is not improbable, that those continents themselves, as it has already been suggested, alternately have been buried, and have emerged from the ocean. From this

## 35 THE ANTIQUITY

reasoning, then, it follows, that the various islands of the globe, as they have many of them been joined to some other country, so will they at future periods exist no longer as islands. Either the sea departing will leave them portions of adjoining continents; or, by its certain though slow advances, immerse them in its restless waters.

A curious circumstance it may not be amiss here to mention, though not with any kind of view to confirm the preceding reasonings, as they stand in no sort of need of confirmation from things that are ambiguous. The whole



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whole of the islands of the South sea would seem of old to have constituted one vast aggregate. Without the possibility of communication, the inhabitants of Otaheite and New Zealand, separated by the sea two thousand miles from each other, have, nevertheless, been found to speak nearly the same language.

## SECTION

*The Fifteenth.*

**H**ERE let me observe, that in these transitions, the seas in some instances are seen to forsake their antient stations with rapidity; in others, and indeed much more commonly, by the most gradual retreat; and where the waters of the deep have been well known to rage, they now leave districts prepared for the beautiful scenes of vegetation.

On

On other occasions the ocean is observed to obtain the superiority, either by a slow and certain approach, or by bursting it at once, and overwhelming every thing in an undistinguished ruin.

The various desertions here suggested are sensibly discerned by those who border upon the sea-coast. Throughout the whole of Europe, towns celebrated as the most distinguished sea-ports, at present are met with thirty or forty miles distant from the ocean. To specify particular instances of these deserted places, is altogether unnecessary. In short, the



## III. THE ANTIQVITY

the histories and traditions of every country abound with such remarkable appearances. On the other hand, within the memory of men, whose situations afford them an opportunity of making such observations, the gradual encroachment of this element is equally observable, and though those advances are often of the slowest nature, yet, in the course of time, it may easily be conceived, that effects of the first importance must, from the continuance of such encroachments, inevitably take place.

The

OF THE WORLD. 355

The Baltic, for instance, has destroyed and overwhelmed, among many others, the famous port of Vineta, and covered by flow degrees a large portion of Pomerania.

In the same manner the sea washing the coast of Norway, is well known to have detached several little islands from the main land, and is still making daily depredations upon the continent.

The German ocean encroaching by degrees upon the shores of Holland, near Catt, overwhelmed the  
ruins

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ruins of an ancient citadel of the Romans, which had formerly been built upon that coast, and which is now actually under the water.

Such are instances of the sea's gradual encroachment! It now remains to give a few examples of its more sudden advances. In the reign of Henry the First, that element overflowed, with a sudden and alarming inundation, the extensive estates of the Earl of Godwin, and has formed that bank, distinguished, even to this day, by the name of the Godwin Sands.



Two hundred and fifty years are past since a similar eruption drowned, in the territory of Dort, an hundred thousand persons, and a still greater number in the neighbourhood of Dullart.

A melancholy inundation, it is universally known, buried in modern times, with a vast rapidity, the half of Friezland. Not more than sixty years ago, the church-steeple of eighteen villages near Mardike testified the unhappy event. They then appeared above the surface of the sea, but have since yielded to the force of the waves.

It

## 158 THE ANTIQUITY

It may not be amiss in this enumeration of facts, thus testifying the sea's important and rapid encroachments, to make some mention of that account, which has been delivered by Plato of the Atlantic land. In his detail of the particulars relating to the country in question, he lets us know, that they were handed down to him by the celebrated Solon. That distinguished sage of antiquity had travelled into Egypt, and received his intelligence of the matter from an obscure tradition of the Egyptian priests. The world have long regarded the whole of this singular narrative as an ingenious fable; but the

the circumstances so recently enumerated give us the greatest reason to presume, that something of a similar nature actually may have taken place.

A considerable time is past, says Plato\*, since the land of Atlantis was in being. It was as large as Asia-Minor and Syria united, and was situated near the pillars of Hercules in the Atlantic ocean. The imagination of the poetical philosopher exults in the description of those numerous advantages, which the inhabitants so long enjoyed in

\* See his *Timæus*,

that



## 166 THE ANTIQUITY

that charming region. This felicity, together with their distinguished refinement, terminated, however, by a dreadful and unexpected inundation. For the sea, suddenly forsaking its ancient station, at once overwhelmed the country and drowned all its inhabitants. At present, not even the smallest vestige of such a land is any where to be met with.

The inundations of the ocean that have been esteemed universal, and recorded in the traditions or various annals of mankind, would seem here to solicit some attention. Partial encroachments of the sea, which have  
ever

ever existed, must alone have given rise to these vague and inconsistent narrations. In an uncultivated age, when men were ignorant of the established laws of nature, every little incident was exaggerated, and might have been sufficient to have given birth to the most absurd and incredible conjectures. The insufficiency of the water of the ocean to cover the whole earth, the unnatural supposition of a great and interesting part of nature being at once destroyed, the inconsistent manner in which all such stories are ever related, impress us with insurmountable incredulity. In short, they never can be received.

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never can be thought reconcilable to reason, by the sensible and enlightened part of the human species.

In the place then of commenting upon fabulous stories, the effusions of ignorance and error, may it not be full as well to give some general hints, which may for ever caution mankind, from being easily captivated with similar delusions?

Let us separate circumstances, that are of an improbable nature, from the narrations of remote or distant history. Whenever we entertain ourselves with the transactions

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of



## OF THE WORLD! 163

of the past times, never should we enter upon them but with the firmest persuasion, that the incidents which glaringly contradict the established laws of nature, are but the dreams and erroneous conclusions of men, involved in barbarism and obscurity. Is it possible, without an eye to this, to peruse with any kind of advantage the antient errors of mankind?

Our immediate predecessors were firmly and universally persuaded of the real existence of the merest phantoms of imagination. To enumerate the many instances of their folly, would be but a painful task. The in-

## 164 THE ANTIQUITY

telligent, indeed, feel themselves hurt by such narrations. To conceive himself allied to a species capable of such glaring misconceptions, can, in fact, never be flattering to a man endued with superior reason and sensibility. Let us, however, select an historical circumstance from the multitude of those that reflect satire and disgrace upon human nature. The unbounded influence of forcery and witchcraft was never once disputed, among our almost immediate ancestors; and it is a well-known fact, that a number of the human species, in these days scarcely to be credited, fell victims to such groundless superstitions.—  
Were

# OF THE WORLD. 165

Were any, however, ignorant and credulous enough in the present age, to assert with confidence the real existence of such imaginary beings, the natives of Europe at least have acquired just discernment sufficient, to see the fallacy of such delusion. But why do those very Europeans still so far countenance folly, as to give an unlimited credit to similar fables and absurdities of antiquity? Are the present natives of Europe any worse for being a little wiser than their ancestors? And can it, at this day, injure the morals of society, or the interests of mankind, to make them still a little wiser than they are; to



divest them of a part of their folly, and to prevent them from falling again into groundless and false suppositions, tending to destroy or at least to fetter them at variance with another.

These last observations are unquestionably true; yet, however true, might in this place have been entirely omitted. In short, fabulous stories and circumstances, glaringly contradicting the established laws of nature, can only be received by those who blindly receive any thing. Such as are incapable of distinguishing the links of probability, that cannot per-

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# OF THE WORLD. 167

ceive what is wanting in the chain,  
eagerly embrace the wonderful in  
every narration. Fables will please,  
but the beautiful simplicity of nature  
and truth solicits in vain their at-  
tention!

I should however be ungrateful if I  
in me to omit mentioning some  
circumstances of a widely different  
and of a more interesting nature.  
What appears to be the undoubted  
remains of tropical productions, both  
of the animal and vegetable kind,  
whose former existence evidently  
seems to have depended upon the  
climatic influence, have been dis-  
covered, chiefly in high northern  
latitudes.

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give what is wanting in the chain,  
 eagerly embrace the wonderful in  
 every narration. Tables will please  
 but the beauty of nature  
 and truth holds in their at-  
*The Sixteenth.*

**I**T would however be unpardonable  
 in me to omit mentioning some  
 circumstances, of a widely different  
 and of a more interesting nature.  
 What appear to be the undoubted  
 remains of tropical productions, both  
 of the animal and vegetable kind,  
 whose former existence evidently  
 seems to have depended upon the  
 sun's direct influence, have been dis-  
 covered petrified in high northern  
 latitudes ;



latitudes; where such stones and petrifications, as I have before mentioned, are so abundant, as even in some measure to constitute immense districts and portions of the countries, where they are at present found. In the contexture, for instance, of prodigious masses of stone, throughout the northern regions of Europe, the impressions of plants are observable. These plants are chiefly of the capillary kind, but sometimes of a peculiar species of fern, both well known to be similar to the present natives of the tropical regions\*.

\* Many such specimens are in the cabinets of the curious.

## 170 THE CAWN ENQUIRY

Remains of elephants, and crocodiles changed into stone, have been discovered in England, Germany, &c. as also have the teeth of sharks, and a vast variety of shell and other fishes present themselves, impressed upon stones, in the various parts of Europe, which do not present no where else but in the East and West Indies, and other such tropical situations. And all these appearances of vegetables, animals and fishes, found remote from their native regions, are accompanied with variety of circumstances, which sufficiently indicate that they were generated, lived and died in the very districts where

where their petrifications are at present discovered.

In short, how these productions ever could come into those northern situations, may well excite our astonishment. They would seem indeed almost decisive, to establish the reasonings previously suggested, in respect to a change in the latitudes of countries. At all events, those climates must, originally, have been suited to the nature of the existence of such animals and vegetables. If then these circumstances should be thought inconclusive in proving, that an alteration in the position of the axis



## 172 THE ANTIQUITY

axis of the world has actually taken place; they at least hold up, and that in the most striking point of view, some strange transitions through which each district unquestionably has passed, in the inexplicable duration of time.

SECTION

*The Seventeenth.*

**S**UCH then are the revolutions  
that take place upon the super-  
ficial parts of the earth ! And though  
in tracing these more minute opera-  
tions, we have by no means been so-  
licitous to point out an uninterrupted  
succession of events ; yet I flatter my-  
self, what has been suggested upon  
that subject may have made the de-  
sired impression. Let us, however,  
once

## 174 THE ANTIQUITY

once more revert to that elevated species of philosophy, whose essential truths absorb every less important consideration. What is it to us how the climates change, and countries alter situations, or how the seas forsake their stations, when we are most undoubtedly convinced, that matter, no where is at rest; that the very seas, the countries, and the world itself are composed of particles in eternal fluctuation?

These immutable truths should never be forgot: That animals and vegetables flourish and decay; that earths are formed by slow degrees;

that



## OF THE WORLD. 175

that they too change by time; that stone is formed, is decomposed or altered in its composition; that mountains now are elevated; now depressed; — that nature lives in motion.

FROM the whole of the facts it must then decisively appear,

That not one single substance in nature is either permanent or unchangeable.

That the animals, the vegetables, the earth, the stones, the minerals, all take their origin in the gradual process

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SECTION

*The Eighteenth.*

**F**ROM the whole of the facts it  
must then decisively appear,

That not one single substance in  
nature is either permanent or pri-  
mary.

That the animals, the vegetables,  
the earths, the stones, the minerals,  
alike take their origin in the gradual  
progress

progress of time, and, in its unceasing succession, are alike exposed to innumerable transmutations.

That the globe itself, from a multitude of causes, is subject to the most slow but interesting revolutions.

That it undergoes incredible changes from heat and cold, volcanos and earthquakes.

That vast alterations are perpetually made by the decay, generation, petrification, and other transmutations of vegetables and animals.

N

That



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That the sea is continually altering the face of the earth,

That in the eternal lapse of time, it alternately encroaches upon and retreats from the dry-land, diminishing or enlarging the habitable world,

And that gradual, but obvious influences occasion those numerous yet partial inundations, that have been found to make such deep and lasting impressions; that have existed in every country, and every where left behind them the most visible marks of ruin and devastation.

SECTION

*The Nineteenth.*

**I**T is needless to multiply facts any farther, in proof of a succession of events of an amazing duration. In this enquiry an extensive field has been opened for speculation. Facts of a singular nature are placed in a light in which they seem not hitherto to have been viewed. A man of common observation, who freely exercises the powers of his reason on

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the general appearances of things, will now be more equal to the task of this important investigation.

Let it then suffice to offer a few general observations on the subject, easily deducible from what has already been said. Every circumstance then, every train of just reasoning on the facts related, in my humble apprehension, declare the human species, all animal and vegetable life, and the whole scene of nature to be of a very different antiquity, from what has hitherto been apprehended. We have seen for what reason, any thing satisfactory on the subject is  
out



OF THE WORLD. 181

out of the reach of human tradition ;  
and enjoying so short an existence,  
is it to be wondered at if our notions  
of time itself are become surprisingly  
contracted ? How familiar too in life  
are the instances of obvious incon-  
sistency ! Ought we then to be much  
surprised, if in the general belief of  
mankind we meet with something  
erroneous ? One part of the human  
species are without even the possibi-  
lity of coming at any other know-  
ledge, than that which is obtained  
by oral tradition, or by their own  
immediate experience. Ignorant of  
the arts of registering ideas, whole

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nations are without any written books, hieroglyphics, or other standing memorials whatever. Because they are not benefited in these respects as we are, the contracted and prejudiced among us are in some degree disposed, to degrade them from the rank of human nature.

Many nations, 'tis true, are differently circumstanced; they have written observations. But of what nature are they?—Voluminous tracts whose contents are absurdities, that are greedily devoured by an undiscerning multitude!

As

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As to the inestimable few, endued with superior abilities, who write in a rational and consistent manner, and whose clear discernment and sound understandings raise them above the ordinary level of mankind, how are they requited? Ignorance discovers not the truth of their observations; and, because they differ from the ignorant, they too often expose themselves to the censure of the greatest part of the world.

Have then the nations, thus circumstanced, profited essentially by the advantages they possess? Elaborate fabricators of what have been



erroneously esteemed unquestionable standards of refinement, seem either to have mistaken the interests, or to have intentionally imposed upon the senses of mankind. Instead of giving vigour to their judgments, do they not labour to render them incapable of judging, and spread a gloomy influence over the whole conduct of their lives? The dupes of the artifices of false systems and of superstition, what virtuous models of perfection! what peaceable and spotless mortals! Should such qualifications, such delusions, characterise the statesmen or the monarchs of the world, ought we to be surpris'd, if, blind to  
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OF THE WORLD. 185

the real interests of society, they prove the tyrants or gothic rulers of mankind! Unhappy, truly, is the lot of men that chance to be directed by those, who, in the momentous circumstances of life, are incapable to direct themselves!

What pains are there not taken, to stop the inlets of all knowledge, to blind, or to confuse mankind! Effectually deceived, do not the greatest part of them thank their imaginary benefactors? Do they not too frequently pay the greater deference to men, in proportion as they propagate absurdities? And is it seriously thought

thought, that deceiving mankind is the real interest of society? Granting that a small portion of the human species be actually benefited by obscurity, do they think that the rest participate the advantage? Can men thus artfully blindfolded trace the windings of nature? Can we, short-sighted of ourselves, and hoodwinked by others, make any progress in philosophical researches? Can we, amid such confusion of ideas, though possessed of the disposition, accomplish the purpose of doing justice either to ourselves or to our fellow-creatures? Is it possible for us, under such wretched circumstances, to distinguish



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guish what is really right or wrong, to fix with precision the boundaries of morality?

The inhabitants of a celebrated portion of the globe stile themselves the rational, the civilized, the intelligent of mankind. Yet, with all their boasted knowledge, are they not absurd enough to confine the existence of the world, and its vast appendages, the unbounded scenes of nature, to the trifling limits of a few thousand years? They have gazed at the written monuments of the East, at the hieroglyphics, and the pyramids of Egypt. They have adopted, as won-  
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ders of antiquity, the labours of men that existed but a few centuries before themselves. The records of immediate predecessors, they have made the bounds of antiquity. Children of a day, they have given but a day to the existence of nature!

Prejudices too, which they are discerning enough to censure in others, lord it over their finer understandings. They laugh at the errors and incoherent notions of the rest of the world; yet, inexcusably, are they captivated with similar delusions. Enemies to liberal investigation, when the result of it seems to contradict  
their

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their favoured opinions, they prefer, with a blind and unlimited confidence, the barbarous tenets of their uncivilized ancestors. As if not capable of distinguishing obvious and simple truths from the most glaring contradictions and absurdities, they eagerly embrace the gross and established superstition ! They insist upon it that the animals, the vegetables, the human species, the world itself, with all the magnificent scenes of nature, are but of some thousand years existence ! Unwilling to depart from such degrading and unwarrantable conclusions, they are even disposed to censure those who vindicate the

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the cause of nature and of truth. Innumerable are the monuments of the extensive influence of folly, and of the weakness and limited reach of human understanding!

In the circle of existence, in vain do we seek for the beginning of things. How absurd and fruitless every recourse to calculation on the subject of antiquity! The stretch of human conception necessarily fails us; a multiplied series of numbers, of which we cannot possibly have any adequate idea, unavoidably leaves the matter removed at an unlimited distance. In short, ourselves, our lives,  
and

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and calculations, are but points in time and in nature !

Is there not then some reason for us to suspect, what in these days rarely enters into the imagination of any man,

That there has ever been a succession of events, something similar to what is continually observed.

That nature must, through endless periods of duration, have acted by laws fixed and immutable.

That

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That the human species have had,  
and will have, an uniform and eternal  
existence!

In a word, that as there never was  
any beginning, so will there never  
be a conclusion to the existence of  
vegetables, animals, the world, the  
universe.



SECTION

*The Twentieth.*

**H**AVING thus endeavoured to give an insight into the nature of things; and having adduced variety of facts and reasonings, to obviate the contracted notions too universally prevailing; it may not now be amiss to make some general observations, which the nature of our subject unavoidably leads us to. In as explicit a manner as possible, I shall endeavour



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vour to shew some of the causes, why the bulk of mankind have ever received improper notions, both of themselves and of the objects every where surrounding them.

By nature, man is evidently impressed with an attachment to his own species, of the warmest kind. This stamp of nature's hand is indeed inseparable from life. Actuated by its influence, we cultivate every thing that seems to have a tendency to make mankind happy. Yet, in every trivial instance, under various disguises, this principle is too often found to degenerate into one more  
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OF THE WORLD. 195

immediately selfish and contracted; and in this view, it has justly been considered as the first and most important spring of almost every action.

It is this prevailing love of self, which has separated man at so vast a distance from the beautiful works of nature; which has raised him in imagination to an high and lofty station in the scale of existence. Ask any one of the undistinguished mass of people, how things came into existence, and for what purpose they exist? The general answer is, that every thing was *created*, and for our particular use and accommodation!



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In this same manner, the world itself has been viewed in the erroneous light of a mansion, fitted up for the general preservation of animal and vegetable life. In short, the whole magnificent scene of things is daily and confidently asserted to be ultimately intended for the peculiar convenience of mankind. Thus do the bulk of the human species vauntingly elevate themselves above the innumerable existences that surround them!

As far as possible, the philosopher should steer clear of circumstances, which mislead and fascinate the judgment.

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ment. Let us then forsake this beaten track; again let us venture to surmise, that such immense portions of matter, as worlds and their varied modifications of animation, have ever existed. If it be necessary that worlds, vegetables and animals should exist, why not always? Here it is however proper to repeat, that the natural objects with which we are every where surrounded, when duly attended to, seem strongly to point out, that one substance changes into another; that the particles of matter, constituting every species of existing substance, so far from being at rest, fluctuate in continual revo-

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lution; and that though men, animals, vegetables, earths, stones, minerals, ever have, and ever will exist; yet do they continually vary in their constituent parts.

Independent of the absolute certainty, that things change one into another; there is not a particle of existing substance, which may not seem to have itself participated of animal or vegetable life, or to have been derived from matter thus previously animated? The reasonings of this enquiry incline us to think so. The marble, the chalk, the limestone, and the calcareous substance in general,



neral, evidently appear to derive their origin from testaceous matter, or the shells of marine animals, and from products of the coral kind. The stones, earths, and clays, of a different quality from the calcareous, would appear, from various circumstances and impressions, to be the genuine offspring of land animals and vegetables. Mineral substances, it is needless to repeat, are derived from rocks, where the matter they are composed of first exudes, and in process of time digests, and is brought to perfection; the rocks themselves being progressively formed from the spoils of vegetables and animals.

Animal and vegetable existence then seem absolutely necessary to the production of the various substances that are met with ; while those very substances are equally necessary to such animation. Thus will it be found, that the different parts of nature, are mutually dependent on and resolvable one into another.

Yet, amid all this fluctuation of beings and events, amid the eternal transmutations or changes of the substances of things, an unerring uniformity is preserved throughout the whole of nature. That the particles of matter entering into the composition

fition of earths, animals, and vegetables form immutably similar productions, the permanency and sameness in the different qualities of earths, vegetables, and animals, sufficiently demonstrate. What difference, let me ask, is there between the composition of the animals and vegetables of to-day, and of those of the remotest period, under similar circumstances of climate and situation? The earths, mineral particles, waters, and materials entering into their compositions, vary not in their natures. For though earths, minerals, and waters themselves are gradually formed, and in time gradually decay; yet are there  
others



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others reproduced with all their qualities.

The revolutions of society,—the contentions of nations,—the downfall of empires,—extinguish not the human species. Nor are the animals and vegetables of the extended scenes of nature in any degree threatened with total extermination. 'Tis true, extraordinary operations of nature at times partially affect their existence; but tumultuous scenes of devastation and calamity are usually succeeded by serene and happy periods of tranquillity, that compensate for destruction, and give ample scope to fertility and  
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population. How incompatible with reason is it to suppose, that nature, whose every operation is stamped with wisdom and consistency, should give a fatal blow to her own existence, and in some measure extinguish herself in the annihilation and destruction of animation !

The continual formation and decay of every existing substance, the unceasing circulation of matter that has been so copiously explained, produces no disorder. Innumerable beings exult in their existence but for a day, then droop, and change the mode of that existence ; yet do they each of them  
leave

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leave their different forms and species equally numerous and flourishing. A continual waste in every part is necessary to the incessant repairs of the whole. The closest sympathy and connection is preserved, throughout the entire system of things; and each part or member of the universe, in performing its proper offices, operates both to its own preservation and to that of the whole.

Nor is the magnificence so universal and apparent—the beautiful order and disposition of the several parts that compose the stupendous whole—any objection to an unbound-  
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ed succession of events. So far indeed from being an objection, they might undoubtedly be brought as the strongest confirmation of such a doctrine. Is it not far easier to conceive things to exist as they are, and to contain eternal order and regular disposition within themselves, than to have recourse to more magnificent causes, which, after all, must be allowed to be eternal and self-existent? Were magnificence an objection to an eternal duration of things, is it reasonable to encrease that magnificence, to remove the objection? If something always has existed, or must have been eternal,—why not pay a deference to the magnificent and beau-

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beautiful objects of whose existence we are certain? why not grant eternity to nature? The world, the universe itself, are composed of moveable particles, qualified for eternal agitation. If then numerous modifications of matter thus exist; if similar events to those already described, daily do take place; what in the nature of things should hinder such events from having always happened? Nature is invariably the same, her laws are eternal and immutable.—Substances that seem inanimate are yet perpetually in action, admit of changes regular and uniform: and as the vegetables rise and fall, and  
men

men exist and die, so they have ever done, and ever will do.

Thus though, through the whole of this enquiry, we have endeavoured to demonstrate a vast succession of ages, to point out the fluctuation of matter, the continued revolutions of beings and events: Though totally unmindful of opinions vague and erroneous, however tenaciously maintained or universally adopted; and heedless of ridiculous and contradictory traditions, as to the origin of the world, the testimony of the uninformed and superstitious, we have been induced from a candid view of natural facts, of surrounding objects, and



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and every appearance of nature to conclude, that the world, the human species, and the whole system of things, never had any beginning, nor will they have any termination, but ever have existed and ever will exist : yet, by thus granting eternity to nature, and resting things, as it were, upon their own foundation, we have by no means been led to controvert the future being of the human species, nor the existence of infinite intelligence and wisdom.

FINIS.

